

REMARKS

Upon entry of the present amendment, claims 1-7 are pending in the above-referenced patent application and are currently under examination. Claims 1 and 28 have been amended. Claims 22-27 have been canceled. Claims 8-11, 13, 14, 19, 21 and 28 have been withdrawn. Reconsideration of the application is respectfully requested.

Claims 1 and 28 have been amended to provide that the reactive component reacts with both the scaffold functional group and the coding functional group to simultaneously prepare the scaffold building block and the coding building block. Support for this amendment can be found throughout the specification, specifically, Figure 1 and paragraph [0014]: “[t]he novel feature of this encoding method is the simultaneous preparation of a scaffold building block and a coding building block.” See also paragraphs [0043], [0048], [0049] and [0060].

Additional amendments to claims 1 and 28 provide that the coding tag precursor (i.e., coding tag functional group) are *separately* linked to the solid support. Support for this amendment can be found in paragraphs [0014] and [0043], and in Figure 1.

Applicants believe the claim amendments add no new matter to the claims.

Applicants thank the Examiner for their time and consideration during the telephonic interview of April 29, 2008. Applicants and the Examiner discussed potential claim amendments and the differences between Lebl and the instant claims.

The claims are rejected in various combinations under 35 U.S.C. § 102(b). Each of these rejections is addressed below in the order set forth by the Examiner.

I. THE PRESENT INVENTION

The present invention is a novel method of preparing an encoded library of compounds in a fast and simple manner. The key to the speed and simplicity of the present invention is that each functional group added to the library compound is encoded simultaneously with the preparation of that particular functional group (see Figure 1 of the instant application).

The simultaneous encoding is possible because the coding group is identical to or mimics the scaffold group. Thus, protection strategies common in the prior art are not necessary in the method of the present invention as the same chemistry used to prepare the scaffold group also encodes the scaffold group.

In addition, each coding group of the present invention is separately attached to the interior of the solid support bead. Attachment of the coding groups to the interior of the bead minimizes interference of the coding groups during the assay of the library compounds.

Accordingly, no prior art method of encoding libraries of compounds provides these 3 elements together: (1) separate attachment of the coding groups to the solid support; (2) use of a coding group that is identical to or mimics the scaffold group; and (3) simultaneously preparing the coding group and the scaffold group.

II. REJECTION UNDER 35 U.S.C. § 102(b) OVER LEBL

Claims 1-7, 12, 15-18, 20 and 29 have been rejected under 35 USC § 102(b) as allegedly being anticipated in view of Lebl. Applicants respectfully traverse the rejections in view of the comments below.

A claim is considered to be anticipated under 35 USC § 102(b) if “the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.” In order for a claim to be anticipated by a reference, the reference must teach every element of the claim (MPEP § 2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). As discussed in detail below, the presently claimed invention is not anticipated in view of any of the cited references as all the references fail to teach every element set forth in the claims of the instant invention.

Applicants respectfully submit that Lebl does not anticipate the instantly amended claims because Lebl fails to disclose at least the following elements: (1) separate attachment of the coding groups to the solid support; and (2) simultaneous preparation of the coding group and the scaffold group. Because Lebl fails to disclose these two elements, the method of the instantly amended claims has several advantages over the Lebl method, as described in Table 1.

Table 1. Comparison of the Lebl and Inventive Methods

Lebl Method	Inventive Method
A single polymeric coding molecule	Each coding group is separately attached to the bead
Separate coding steps and scaffold steps, such that the coding step is performed <i>before or after</i> each scaffold step	Coding step and scaffold step are performed simultaneously
Orthogonal protecting groups for coding steps and scaffold steps requires different chemistries	No protecting groups since the coding group and the scaffold group are prepared simultaneously using the same chemistry
4-step process for preparing and encoding a scaffold group	1-step process for preparing and encoding a scaffold group

Lebl discloses a method of preparing an encoded library of compounds using many elements outside the scope of the instantly amended claims. For example, Lebl discloses the use of a **single polymeric** coding molecule. See Figures 1A-1C of Lebl, the description at column 7, lines 14-27, as well as column 9, lines 61-64:

[P]referably the coding molecule is a peptide, although the present invention encompasses the use of nucleic acids or any **sequenceable polymer** as a coding sequence.

(Emphasis added.)

In contrast, the method of the instantly amended claims provides that each coding group is “separately” attached to the solid support. As Lebl discloses a string of coding groups linked together and not individual coding groups separately attached to the solid support as instantly claimed, Lebl does not disclose all the elements of the instantly amended claims.

Lebl also discloses that the coding step and scaffold step are performed **separately**, such that the coding step is performed *before or after* each scaffold step:

Preferably, a coding molecule is synthesized in parallel with the synthetic test compound. In this instance, **before or after linking the subunit of the synthetic**

test compound to the support ... one or more subunits of the coding molecule, that correspond(s) to the added subunit of the synthetic test compound, is linked to the growing coding molecule such that a unique structural code (see Section 5.1, *supra*), corresponding to the structure of the growing synthetic test compound, is created on each support. It can be readily appreciated that if an encoded library is prepared, synthesis of the coding subunit or subunits must precede the mixing step, (iii).

(Column 11, lines 10-21. Emphasis added.) Accordingly, the coding step of Lebl is not performed simultaneously with the scaffold step, but rather before or after the scaffold step.

In contrast, the method of the instantly amended claims provides that the scaffold step and the coding step are performed “simultaneously.” As Lebl discloses coding via a separate step rather than the simultaneous coding of the instantly amended claims, Lebl does not disclose all the elements of the instantly amended claims.

Because the library of Lebl does not perform the coding and scaffold steps simultaneously, Lebl relies on a complex protecting group strategy involving **orthogonal protecting groups** for the coding steps and scaffold steps. The use of orthogonal protecting groups allows one set of functional groups to react while preventing reaction of the other set of functional groups until the appropriate time. As described in Scheme XIA in columns 41 and 42, the method of Lebl requires the repetition of a 4-step process:

- (1) deprotection of the scaffold group;
- (2) reaction of the scaffold group;
- (3) deprotection of the coding group; and
- (4) reaction of the coding group.

For each new scaffold functional group, this 4-step process must be repeated.

In contrast to the method disclosed in Lebl, the method of the instantly amended claims requires only a *single-step* to perform the scaffold and coding steps (see above). Because Lebl fails to disclose that each of the coding groups are separately attached to the solid support and that the scaffold group and coding group are prepared simultaneously, Lebl fails to disclose all the elements of the instantly amended claims. Thus, the instantly amended claims are not

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anticipated under 35 U.S.C. § 102(b) by Lebl. Accordingly, Applicants respectfully request that the Examiner withdraw this aspect of the rejection.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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